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PATENT COOPERATION TREATY



PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 02037WO	FOR FURTHER ACTION Sec Form PCT/IPEA/416	
International application No. PCT/EP2003/012577	International filing date (day/month/year) 11 November 2003 (11.11.2003)	Priority date (day/month/year) 18 November 2002 (18.11.2002)
International Patent Classification (IPC) or national classification and IPC B32B 15/01		
Applicant CARCOUSTICS TECH CENTER GMBH		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>8</u> sheets, as follows: <div style="margin-left: 20px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</div> b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <div style="margin-left: 20px;"><input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application</div>

Date of submission of the demand 09 June 2004 (09.06.2004)	Date of completion of this report 23 September 2005 (23.09.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

Form PCT/IPBA/409 (cover sheet) (January 2004)

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

- ☒ The international application as originally filed/furnished
- ☒ the description:
- pages _____ 1, 4-6, 8-14 _____, as originally filed/furnished
- pages* _____ 2, 2, 2, 3, 7 _____ received by this Authority on _____ 23 February 2005 (23.02.2005)
- pages* _____ received by this Authority on _____
- ☒ the claims:
- pages _____, as originally filed/furnished
- pages* _____, as amended (together with any statement) under Article 19
- pages* _____ 1-14 _____ received by this Authority on _____ 28 February 2005 (28.02.2005)
- pages* _____ received by this Authority on _____
- ☒ the drawings:
- pages _____ 1/3-3/3 _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP 03/12577

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-14	YES
	Claims		NO
Inventive step (IS)	Claims	1-14	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-14	YES
	Claims		NO

2. Citations and explanations

This report makes reference to the following documents cited in the search report:

- D1: EP-A-0 486 427 (MATEC HOLDING), 20 May 1992 (1992-05-20)
- D2: DE 91 07 484 U (HELMUT W DIEDRICHS), 29 August 1991 (1991-08-29)
- D3: DE 89 00 894 U (GERHARDI & CIE GMBH), 31 May 1990 (1990-05-31)
- D4: EP-A-1 059 159 (INST DEUTSCHE), 13 December 2000 (2000-12-13)

The amendments submitted with the letter of 23 February 2005 comply with PCT Article 34(2) (b). The new claim 1 comprises the features of the original claims 1, 2, 3, 5, 10 and 11, combined with the features on page 7, paragraph 1.

1. Novelty

The present application meets the requirement of PCT Article 33(2) because the subject matter of claims 1-14 is novel over the prior art as defined in the Regulations (PCT Rule 64.1-64.3).

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Document D1 defines a disposable thermal shield for insulating vehicle parts, the shield having a dimensionally stable support layer that bears a sound-absorbing, thermally insulating layer provided at least on its side away from the support layer with a protective coat, characterised in that the dimensionally stable support layer, the sound-absorbing, thermally insulating layer and the protective coat are made of an easily disposable material, in particular a light metal (D1, claim 1). All the layers are made of aluminium.

The technical features which differentiate the invention from D1 are:

1. a microporous structure with a plurality of narrow and branching channels (11), which is not explicitly mentioned by D1,
2. the number and thickness of the pressed aluminium fabric layers, which are not mentioned in D1,
3. possible sound-transmitting perforations (D1, claim 8: "the support can be partially perforated"), whose number is not mentioned and whose diameter ($0.1 < d < 1.9$ mm) is not specified in D1,
4. the fact that in D1 the layers need not only be made of aluminium (D1, claim 4).

2. Inventive step

The present application meets the requirement of PCT Article 33(3) because the subject matter of claim 1 involves an inventive step (PCT Rule 65.1, 65.2).

Document D1, which is considered to represent the closest prior art, also discloses (see above) a thermal shield with a sound-absorbing, thermally insulating layer, from which the subject matter of the present claim 1, however,

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differs by the above-mentioned technical features 1-4.

The present invention can therefore be considered to address the problem of providing an alternative to D1 and D2 having an excellent thermal shielding effect, as well as good sound-absorbing properties and recyclability.

The solution proposed in claim 1 is not obvious in the light of D1 and D2.

D2 already showed in figure 6 two superimposed aluminium thread fabrics, but it did not teach the sound-transmitting perforations as per claim 1.

Even *ex-post-facto*, the subject matter of the present claim 1 cannot be reconstituted from the searched prior art. Claim 1 is not obvious and solves the technical problem with its differentiating technical features.

As indicated on pages 3-4 of the application, the interaction of porosity, perforation diameter and mesh intervals is important for determining the sound-absorbing properties. D1 and D2 do not contain this teaching.

Certain observations on the international application

3. The application complies with PCT Rule 5.1(a)(ii).